

## Claims:

1. A system for verifying path integrity through a transparent optical-electrical-optical (OEO) switch in a digital communications system comprising:  
an optical receiver at an ingress port of the switch to receive an optical data signal and to convert the optical data signal to an electrical data signal;  
a splitter to divide said electrical data signal into parallel paths for delivery to separate switch fabrics;  
data recovery units to receive data signals from said separate switch fabrics and to evaluate signal quality of respective paths;  
a processor to select one of said signals of said signals from said separate switch fabrics based on the evaluation; and  
a transmitter at an egress port to convert said one signal to an optical signal and to transmit said optical signal downstream.
2. The system as defined in claim 1 wherein said data recovery units are clock data recovery (CDR) devices.
3. The system as defined in claim 2 wherein said CDR devices evaluate the bit error rate (BER) of said signals from said separate switch fabrics.
4. The system as defined in claim 2 wherein said CDR devices evaluate clock status of said signal from said separate switch fabrics.
5. The system as defined in claim 1 wherein said electrical signal is divided into two parallel paths and supplied to two separate switch fabrics.
6. The system as defined in claim 1 wherein said processor operates in conjunction with a selector to provide the signal having the highest quality to said transmitter.
7. A method of verifying integrity of a data signal through a transparent optical-electrical-optical switch in a digital communications system, the method comprising;  
receiving an optical data signal at an ingress port of the switch;

converting the optical data signal to an electrical data signal;  
splitting the electrical signal into parallel paths and forwarding each  
through separate switch fabrics;  
evaluating signal quality of each signal from said separate switch fabrics;  
selecting the signal having the highest quality;  
converting the signal having the highest quality to an optical signal; and  
transmitting said optical signal downstream.

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